



Panel Discussion

Can higher education institutions and public research centres play a key role for fostering NSIs in developing countries?

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Issues for the debate

The literature on National Systems of Innovation (NSI) and on recent successful catch up processes suggests that universities and research institutes can make very important contributions to development.¹ These contributions are associated with the emergence of patterns of interactions between these components of NSI and business enterprises, whereby knowledge flows in both directions. These two-way interactive relationships promote virtuous circles in the production and diffusion of knowledge in both the scientific and technological dimensions.

Current research on university-industry linkages (henceforth, UILs) throughout catch up process indicates that the “modes of interaction” between universities/research institutes and firms change as the country develops. The dynamic relationship between these two key components of a NSI reflects the co-evolution of factors such as the research capabilities of universities and research institutes on the one hand, and the absorptive capacity of firms on the other. These factors define different “modes of interaction” and their changes over time. A key lesson from successful catch up processes is that UILs ought to be flexible over time and differentiated across fields of knowledge. As the stage of development changes, so does the nature of UILs.

In the case of Latin American, African and important Asian countries, the interactions described above do not seem to be working fully. Anecdotal evidence, case studies, and a limited amount of statistical data indicate that, while some firms are indeed benefiting from their contacts with universities and public labs, for the most part there is little fruitful interaction. While one can see areas of fruitful interaction between university and industry, these seem the exception not the rule. This generalization seems to hold among developing countries of Latin America, Africa and Asia.

Emerging from this preliminary evaluation is a central question for this panel:

¹ Catch up is very broadly defined, involving improvements in income, income distribution, technological and scientific capabilities. As the literature highlights, successful catch up process involve institutional innovations that are country-specific. This literature has a potential dialogue with the structuralist school, and this dialogue is very important.

- How and why do relationships between universities/research institutes and firms differ across countries and regions at different stages of development, and across sectors?
- To inform answers to this central issue, there is a second question: What are the roots of the present relations between universities and firms in developing countries Latin America, Africa and Asia?
- The panel's discussion on these first two issues will help us address a final question: What changes (quantitative and qualitative) in the characteristics of universities and research institutes might be instrumental to enhance their contributions to the evolution of NSIs in developing countries?